SECTION 1. IDENTIFICATION

Product Name: Calcium Oxide Nanoparticles / Nanopowder

Product Number: All applicable American Elements product codes, e.g. CA-OX-02-NP, CA-OX-03-NP, CA-OX-04-NP, CA-OX-05-NP

CAS #: 1305-78-8

Relevant identified uses of the substance: Scientific research and development

Supplier details:
American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351

Emergency telephone number:
+1 800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Skin irritation (Category 2), H315
Serious eye damage (Category 1), H318
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

GHS Label elements, including precautionary statements
Pictogram

⚠️

Signal word
Danger
Hazard statement(s)
H315
Causes skin irritation.
H318
Causes serious eye damage.
H335
May cause respiratory irritation.
Precautionary statement(s)
P261
Avoid breathing dust/ fume/ gas/ mist/ Vapors/ spray.
P264
Wash skin thoroughly after handling.
P271
Use only outdoors or in a well-ventilated area.
P280
Wear eye protection/ face protection.
P280
Wear protective gloves.
P302 + P352
IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P312
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a
POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338 + P310
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and
easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
P332 + P313
If skin irritation occurs: Get medical advice/ attention.
P362
Take off contaminated clothing and wash before reuse.
P403 + P233
Store in a well-ventilated place. Keep container tightly closed.
P405
Store locked up.
P501
Dispose of contents/ container to an approved waste disposal plant.
Hazards not otherwise classified (HNOC) or not covered by GHS
Reacts with water to form corrosive calcium hydroxide, with evolution of heat. Temperatures as high
as 800° C have been reached with

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances
Synonyms: Quicklime Lime
Formula: CaO
Molecular weight: 56.08 g/mol
CAS-No.: 1305-78-8
EC-No.: 215-138-9
Component
Calcium oxide
Classification
Skin Irrit.2; Eye Dam.1; STOT SE3; H315, H318, H335
Concentration
<=100%
**SECTION 4. FIRST AID MEASURES**

Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Continue rinsing eyes during transport to hospital.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

Indication of any immediate medical attention and special treatment needed
No data available

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**SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture
Calcium oxide

Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

Further information
No data available

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures
Use personal protective equipment.
Avoid dust formation. Avoid breathing Vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

Environmental precautions
Do not let product enter drains.

Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Reference to other sections
For disposal see section 13.
SECTION 7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.
Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place.
Keep in a dry place.
Storage class (TRGS 510):
Non Combustible Solids
Specific end use(s)
Apart from the uses mentioned in section 1 no other specific uses are stipulated

SECTION 8. EXPOSURE CONTROLS/PERSOAL PROTECTION

Exposure controls
Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment
Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min

EN 374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance
Form: powder, pieces, or solid in various forms

Odor
No data available

Odor Threshold
No data available

pH
12.5 - 12.8 at 1.65 g/l at 25 °C (77 °F)

Melting point/freezing Melting point/range: 2,614 °C (4,737 °F)
Initial boiling point and boiling range
2,850 °C (5,162 °F)-lit.

Flash point
N/A

Evaporation rate
No data available

Flammability (solid, gas)
No data available

Upper/lower flammability or explosive limits
No data available

Vapor pressure
No data available

Vapor density
No data available

Relative density
3.3 g/cm³ at 25 °C (77 °F)

Water solubility
soluble

Partition coefficient: n-octanol/water
No data available

Auto-ignition temperature
No data available

Decomposition temperature
No data available

Viscosity
No data available

Explosive properties
No data available

Oxidizing properties
No data available

Other safety information
No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity
Chemical stability
Stable under recommended storage conditions.
Possibility of hazardous reactions
No data available
Conditions to avoid
Avoid moisture.
Incompatible materials
acids, Water
Hazardous decomposition products
Other decomposition products- No data available
In the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity
No data available
Inhalation: No data available
Dermal: No data available
Skin corrosion/irritation
Skin-Human
Result: Severe skin irritation
Serious eye damage/eye irritation
Eyes-Rabbit
Result: Risk of serious damage to eyes.(OECD Test Guideline 405)
Respiratory or skin sensitisation
No data available
Germ cell mutagenicity
No data available
Carcinogenicity
IARC:
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH:
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP:
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA:
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity
No data available
Specific target organ toxicity -single exposure
Inhalation-May cause respiratory irritation.
Specific target organ toxicity -repeated exposure
No data available
Aspiration hazard
No data available
Additional Information
Cough, Shortness of breath, Headache, Nausea, Vomiting
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity
Toxicity to fish
LC50-Cyprinus carpio (Carp)-1,070 mg/l-96 h
Persistence and degradability
No data available
Bioaccumulative potential
No data available
Mobility in soil
No data available
Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
Other adverse effects
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company.
Contact a licensed professional waste disposal service to dispose of this material.
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Contaminated packaging
Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

DOT (US)
Not dangerous goods
IMDG
Not dangerous goods
IATA
UN number: 1910
Class: 8
Packing group: III
Proper shipping name: Calcium oxide

SECTION 15. REGULATORY INFORMATION

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard

Massachusetts Right To Know Components
Calcium oxide
CAS-No.
1305-78-8
Revision Date
1993-04-24

Pennsylvania Right To Know Components
Calcium oxide
CAS-No.
1305-78-8
Revision Date
1993-04-24

New Jersey Right To Know Components
Calcium oxide
CAS-No.
1305-78-8
Revision Date
1993-04-24

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2019 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.